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AUTHOR McClure, Erica; Blomeyer, Charlotte
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ABSTRACT

A study was undertaken to investigate the variation in the speech of child second language learners as a function of the different discourse constraints imposed by three participant structures: narrator-audience, child-adult conversation, and child-child conversation. The subjects were 18 children aged 7 to 12, temporary residents in the United States, from nine native language groups. Data consisted of video and audiotaped interviews and videotaped interactions in a classroom of English as a second language. In the interviews, each child was questioned about his experiences learning English, everyday activities after school, and vacations, and was asked to narrate a familiar folktale. Portions of the discourse were analyzed for complexity, grammatical errors, dysfluency, and cohesion. Results show greatly varying communicative constraints in the three structures. In child-child conversations, communication involved short, routinized forms. In child-adult conversations the adult provided much support, and much of the child's speech was elliptical. However, in the narrative structure, the child is charged with providing coherent, cohesive discourse within minimum input, and it offers the greatest linguistic challenge. In this situation, only the most proficient speakers could elaborate syntax and use cohesive elements without increasing error and hesitation. It is proposed that the narrative structure provides the best communicative situation for measuring linguistic proficiency. (MSE)

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The Effect of Differing Participant Structures on the Speech of Children Acquiring English as a Second Language

Erica McClure and Charlotte Blomeyer
University of Illinois at Urbana-Champaign

During the past few years investigators in the field of second language acquisition have increasingly been focusing their research on topics in the domain of discourse analysis (e.g. Hatch, 1978a & b; Hatch and Long, 1980; Larsen-Freeman, 1980; and Richards, 1981). Nevertheless there is still relatively little research examining the effect of situational variables on the discourse of second language learners. Seminal studies include research on differences in elicited versus free speech (Rozanski, 1976) and in child-child versus child-adult discourse (Hatch, 1978b; Peck, 1978; and Hatch, Peck, and Wagner-Gough, 1979) as well as differences occasioned by style or register shifting (Richards, 1981 and Beebe, 1980). Building on these studies, in this paper we investigate variation in the speech of child second language learners as a function of the different discourse constraints imposed by three participant structures: narrator-audience, child-adult conversation, and child-child conversation.

Methodology

Subjects

Eighteen children temporarily resident in the United States were the subjects for this study. During the research period, the 1981-1982 school year, sixteen of these children were enrolled in a school, K, with a multilingual, multicultural program. Two children were enrolled at B and attended a morning pullout ESL program. At the beginning of the school year all eighteen subjects at K had the following characteristics. They (a) ranged in age from 7 to 12 with concentrations at ages 7 and 9 (grades 2 and 4), (b) knew very little or no English, (c) were already literate in their native languages (Japanese, Korean, Hebrew, Arabic, Pashto, Spanish, Icelandic, Norwegian, and Polish), and (d) had at least one parent enrolled as a graduate student or employed as a professor at the local university.

Data Collection and Analysis

The data upon which this study rests were collected at the end of the school year in two different situations: (1) video and audiotaped interviews conducted by a project team member and (2) videotaped ESL classroom interactions. During the course of the school year the children had become thoroughly familiar with the team members and with being video and audiotaped. In the interviews, each child was questioned about his experiences learning English as a second language, his everyday activities after school, and his past and future vacation experiences. Additionally each child was asked to narrate a familiar folktale. The interviews averaged thirty minutes in length. The ESL classroom videotapes were approximately forty-five minutes in length. Eight classroom videotapes made during the same period as the interview tapes were used for the analysis.

Transcripts of the interviews and ESL classroom interaction were prepared using both the video and audio records. Special care was taken to insure that not only were the transcriptions lexically, syntactically and morphologically accurate but also that they faithfully recorded all dysfluency phenomena.

Using these transcripts, for each child the authors selected for analysis a folktale, one or more annecdotes, and all of the child's conversational exchanges with other children (much less speech was produced in this participant structure than in the other two). Annecdotes were defined as passages involving a sequence of events the child himself had experienced together with any associated descriptive material. An attempt was made to obtain an annecdote sample at least roughly equivalent in length to that of a child's folktale. In those cases where a child's folktale was much longer than his longest annecdote, one or more additional annecdotes were included for analysis where possible. For most children the annecdotes selected for analysis constituted all that they had produced. The three types of data were associated with three different participant structures. The structure for the folktales was that of narrator to audience. The child narrator had been given the floor. Consequently, the rules for conversational interaction were those for a performance. For the annecdotes, the participant structure was that of an adult-child conversation with the adult directing the conversation. Finally, the structure in which the child-directed conversational exchanges were embedded was that of a child-child conversation in which the children competed for the floor.

Once selected, the three samples, folktales, annecdotes, and child-directed conversational exchanges, were analyzed in terms of complexity, errors, dysfluency and cohesion. The complexity measure was words per t-unit. [1] The error measures were: (1) morpheme omissions or substitutions per obligatory morpheme context [2], (2) syntactic errors per clause [3], and (3) total errors, syntactic and morphological, per word. The dysfluency measure was the sum of syllabic, single word, and phrasal repetitions divided by the total number of words. [4] Indices of cohesion [5] included (1) lexical ties per word, (2) pronouns per clause, (3) conjunctions per clause [6], and (4) ellipsis per clause.

Results

A one-way ANOVA was performed for each of the complexity, error, dysfluency, and cohesion measures comparing the scores on the folktales elicited in the narrator audience structure, the annecdotes elicited in the adult-child conversational structure, and the child-directed utterances in the child-child conversational structure. All of the ANOVAs were highly significant. The Scheffe post hoc test was used to determine which of the three possible pairings of variables in each ANOVA was significantly different. The Scheffe test is known as being highly conservative (Kirk 1968:90, SOUPAC Program Descriptions, Computer Services Office, University of

Illinois, 1976:IV.POST.2), it does not allow one to make use of the fact that this experiment involves repeated measures, and its power is decreased still further since child-child conversation data were not available for 7 of the 18 subjects. Due to the combined effect of these three facts, a contrast which the Scheffe test indicates is significant is certainly significant, while one which is rejected may actually be significant. Therefore a matched t-test was carried out to compare the folktale and annecdote results. As expected, some contrasts which were rejected by the Scheffe test as not significant or as significant only at the .10 level proved highly significant (e.g. at the .001 level) under the t test. Table 1 summarizes our findings [7].

Table 1
Summary of Findings

			Scheffe								T-test	
Means	ANOVA		A vs F		A vs C		F vs C		A vs F			
	A	F	C	ratio	p	ratio	p	ratio	p	ratio	p	t	p
Words												
per t-unit	7.01	6.79	2.74	35.48	<.0000	.46	ns	7.77	<.001	7.38	<.001	.49	ns
Morpheme errors												
per obligatory morpheme context	.27	.38	.03	13.66	<.0000	-1.98	ns	3.56	<.01	5.21	<.001	2.91	<.005
Syntactic errors												
per clause	.32	.56	.08	9.50	<.0003	-2.44	<.01	2.19	ns	4.32	<.001	3.08	<.003
Total errors												
per word	.12	.19	.06	8.16	<.0009	-2.46	<.01	1.81	ns	3.96	<.01	3.55	<.001
Repetitions												
per word	.07	.11	.01	7.08	<.0011	-2.06	ns	2.14	ns	3.93	<.01	3.60	<.001
Lexical ties												
per word	.13	.20	.12	6.20	<.0042	-2.93	<.05	.48	ns	3.03	<.05	3.38	<.002
Pronouns												
per clause	.63	.62	.20	13.51	<.0000	.00	ns	4.71	<.001	4.64	<.001	-	ns
Ellipsis												
per clause	.20	.03	.36	23.31	<.0000	3.95	<.01	-3.29	<.01	6.73	<.001	6.63	<.0003
Conjunctions												
per clause	.28	.50	.03	54.30	<.0000	-5.56	<.001	5.51	<.001	10.35	<.001	4.75	<.0001

A = Annecdotes, F = Folktales, C = Child-Child Conversations

Pearson product moment correlations of all indices were also performed for folktales, annecdotes, and child-directed utterances. The correlation of total error scores and dysfluency scores yields a highly significant r of .79 ($p<.0001$) for the folktales and a marginally significant r of .45 ($p<.06$) for the annecdotes, indicating that less proficient students tended to produce more repetitions than more proficient ones. This finding parallels Peterson and McCabe's (1983) finding that younger, less proficient children produced more repetitions when telling personal narratives than older children. Additionally, in the annecdotes, total error scores are correlated with ellipsis ($r=.60$, $p<.01$), indicating that less proficient students

are more likely to rely on elliptical responses than are more proficient students.

Discussion

The differences noted above in folktales, annecdotes, and conversational exchanges with respect to complexity, grammaticality, dysfluency, and cohesion arose from the different rules for interaction in the three participant structures with which they are associated: narrator-audience, child-adult conversation, and child-child conversation. Hatch (1978b:138) points out that "in adult-child conversation when a child is the object of the study, the investigator almost always attends to the child" while in child-child discourse it is more difficult to get the partner's attention. Both Hatch and Peck (1978) note that it is much easier for children to nominate a topic in child-adult discourse, and that adults will attempt to expand on it thus asking many more identification and elaboration questions than do child conversational partners. In contrast, Hatch and Peck note that repetition and incorporation occur much more frequently in child-child conversational discourse. Hatch, Peck, and Wagner-Gough (1979:275) state that:

> "Children's play often contains language that is highly predictable, repetitious, and well conceptualized and as such is ideal for the learner. There are certain routines for setting up the rules of a game or play situation and for arguing about one's own version of the rules. Once the game has begun, there is often a small set of structurally and semantically similar utterances which can be used for commenting on the play or as integral parts of the game and again for maintaining the rules which have supposedly been agreed on."

The differences in child-child and child-adult structures referred to above relate to our findings in the following ways. First, a large majority of the child-directed conversational exchanges in our corpus were the type of routines referred to by Hatch et al (1979), claims such as "my turn," "that's my chair," requests for action such as "come on," statements of rules such as "No, you can't pass!" These utterances tend to be short, accounting for the low mean length of t units in the child-directed conversational exchanges. A further motivation for short utterances may have been difficulty in attracting and maintaining the attention of other children. Short utterances headed by attention words or vocatives and stated emphatically can be quite effective for this purpose.

The annecdotes and folktales were produced under quite different constraints. They both occurred in participant structures in which adults had given children the floor and encouraged them to elaborate on a topic. In such situations the children were charged with providing coherent accounts of events. Such accounts tend to require the use of novel, longer utterances, and indeed, we found

significantly longer T units in the discourse of the narrator-audience and child-adult conversation structures than in that of the child-child conversation structure.

The fact that novel, longer utterances were required in both the folktales and the annecdotes may in part account for their having a higher morphemic error rate than child-directed conversational exchanges, a finding which runs counter to Pimpaporn's hypothesis cited in Hatch (1983) that oral discourse addressed to an older authority figure would be more carefully planned and more grammatically correct than that addressed to fellow students. Additional possible contrubuting factors are the greater need for the past tense and the more frequent use of pronominalization in the annecdotes and folktales than in the child-directed conversational exchanges. Both the past tense and pronouns were problematic for many of the children.

The relative length and semantic complexity of the narratives and folktales in comparison to the very abbreviated form of the child-directed conversational exchanges probably also explains why there is more conjunctive cohesion in the former than in the latter. There was simply more opportunity for it to occur. As Fine (1978:254) has noted, "Conjunction shows the highest rate of linking to the speaker's own language of all types of anaphoric cohesion" and "it is generally used within turns." From our data it appears that pronominalization may function in the same way.

Although with respect to pronominal and conjunctive cohesion it is annecdotes and folktales which are similar, with respect to lexical tying and ellipsis, it is the annecdotes and child-directed conversational exchanges which are similar. The fact that lexical tying is more common in folktales than in annecdotes or child-directed conversational exchanges probably simply reflects the children's adherence to the conventions for the folktale genre, one of which is the repetition of set phrases (Vandergrift, 1980). The situation with respect to ellipsis is more interesting. Almost all of the ellipsis which occurred was ellipsis based on a conversational partner's speech, not on that of the subject himself as has been previously noted by Fine (1978:253) and Bernstein (1981:145). Thus there was much more opportunity for ellipsis in the case of the annecdotes and child-directed coversational exchanges than in the folktales as the former were elicited in participant structures in which the rules of interaction allow all participants to contribute freely to the verbal interaction while the latter were elicited in a structure where the rules of interaction strongly limit the verbal contribution of all save the narrator.

In the annecdotes but not the child-directed conversational exchanges, the ellipsis was largely the result of extensive sca'folding provided by the conversational partner. In many cases, annecdotes were constructed almost entirely by the interviewer, who hypothesized what the student wanted to say and then presented it to the student for verification in the form of yes-no questions or in the form of tightly constrained wh-questions.

The fact that scaffolding was prevalent in annecdote narration but not in folktale narration may in large part account for their differences in syntactic error and dysfluency rates. When children encountered difficulties in telling an annecdote they could rely on scaffolding. By building their responses on the interviewer's questions, they simplified their grammatical production task. Little wonder then that those students who had still not completely mastered the grammar had lower error rates in the annecdotes. Differences in dysfluency rates may also be due to the reduced processing demands placed on the student when he is able to rely on the interviewer's scaffolding. Perhaps too he is aided in formulating the annecdotes by his own participation in the events which may reduce the amount of effort he needs to put into constructing the event sequence and thus free more of his attention for concentration on the grammar.

Conclusion

Communicative constraints vary greatly across the three structures discussed, occasioning many differences in the code variables investigated. In child-child conversations, most of the communication involves short, routinized forms. There is little opportunity or need to elaborate a message. In child-adult conversations the adult provides a lot of scaffolding. Therefore much of the child's discourse is elliptical. In contrast, in the narrative structure, the child has the floor and is charged with providing a coherent, cohesive discourse with a minimum of input from his interlocutors. Thus this latter structure offers the maximum challenge to his linguistic resources. It is only the most proficient speakers who are able to meet this challenge by elaboration of syntax and the use of cohesive elements and who do not suffer significant increases in error and hesitation measures. Consequently, since the display of communicative competence in the first two structures may be accomplished with minimal linguistic proficiency but may not be so accomplished in the narrative structure, the latter provides the best communicative situation for a test of linguistic proficiency.

Footnotes

1 The measure words per t unit rather than morphemes per t unit was used for three reasons. First, it is a standard complexity measure in the literature on children's story narration (e.g. Applebee, 1978). Second, the utterances of most children were sufficiently complex that using morphemes did not greatly increase the diversity of the scores. Third, the status of morphological markers differed from child to child. For some, the presence of such a unit in output did not necessarily mean that the form contrasted with others. No additional complexity measures were used because there is no agreed upon means of assessing the relative complexity of different means of elaborating on a main clause such as addition of prepositional phrases, subordination, etc.

2 Zero morphemes marking verb inflections were considered to exist and the contexts for their occurrence were counted as obligatory morpheme contexts for those children who generally inflected verbs correctly. They were not counted as possible contexts for those children who always used the verb root. A zero morpheme was not counted as existing for singular nouns for any of the children. Pronominal errors were counted as morphemic errors.

3 Each omission or misplacement of an element other than a bound morpheme was counted as a separate syntactic error. The syntactic error rate was obtained by dividing the number of syntactic errors by the number of clauses, and not sentences, because it is extremely difficult to isolate sentences in oral discourse (see Brown and Yule 1983 and Kreckel 1981). Deciding where sentences begin and end is especially difficult in the case of non-native speakers, whose pause and intonation patterns are not the same as those of native speakers. Like Crystal (1979) we found that the basic unit used by our subjects appeared to be the clause preceded by a connective (frequently 'and' or 'so') in stretches of uninterrupted discourse. Especially in the annecdotes, a large number of the clauses were elliptical.

4 Pause forms such as 'uh', and 'um' were not counted here as they were very infrequent in the data and seem further to be functionally dissimilar. Our composite measure of dysfluency is based on the discussion of dysfluency in Conture 1982.

5 Cohesive ties were tallied in accordance with the framework presented in Halliday and Hasan (1976), i.e. their categories of cohesive devices were used with their pronoun category expanded to include first and second person pronouns. However, their analysis of written text is concerned with cohesion across sentences. Because of the difficulties of deciding which clauses are connected together as sentences in oral discourse (see note 4 above), our analysis tallies the cohesive devices used to connect clauses with previous clauses.

6 Since the initial clause in an annecdote has no preceding clause to which it can be linked by a conjunction, for every annecdote after the first included in a sample, one clause was deducted from the total number to calculate this ratio.

7 Unfortunately, lack of space in this paper precludes discussion of the considerable individual variation on these measures.

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